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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/040,825	03/18/1998	MARIO FRYBERG	ICH275	2298

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EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/040,825

Applicant(s)

FRYBERG ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005 and 27 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's amendment filed on June 27, 2005, which amends claims 12 and 13, has been entered.

Claims 3, 4 and 6-13 are pending.

2. Claims 3, 4 and 6-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 12, with claims 3, 4 and 6-11 dependent therefrom, has been amended to limit the quantity of copolymer to "below 75 weight %" whereas claim 12 previously limited the quantity of copolymer to "between 10 to 75 weight %". Neither the present range nor the prior range are explicitly recited in the original disclosure, but the endpoints of the prior range are supported by Sample Nos. 17 and 33 as set forth in the specification. The present range does not find sufficient support in the application as originally filed because quantities of copolymer of more

than 0 weight % but less than 10 weight %, as encompassed by the present range, do not find sufficient support. (While “below 75 weight %” could be interpreted as encompassing 0 weight %, the claim initially defines the copolymer as a component of the layer. Accordingly, the range must apparently be interpreted as requiring more than 0 weight % but less than 75 weight %.)

Claim 13 has been amended to recite a binder “consisting” of gelatin. Claim 13 requires the quantity of copolymer to be between 10 to 75 weight % of the combined amount of said copolymer and binder. The copolymer and the binder consisting of gelatin are components of a layer receptive for aqueous inks, with the composition of the layer being open to components other than the copolymer and the binder consisting of gelatin. Applicant’s arguments filed May 20, 2005 indicate that gelatin is the only binder in the layer, but based on the present claim recitation of “said layer comprises”, it is the examiner’s position that the claim need not be interpreted as narrowly as argued by applicant. However, if claim 13 is interpreted as excluding binders other than gelatin from the composition of the layer, insufficient support is provided for the “between 10 to 75 weight %” limitation. The endpoints of 10% and 75% are not supported by the examples set forth in the specification in which the layer receptive for aqueous inks has the copolymer and has only gelatin as a binder.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 3, 4 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al. (4,801,497) in view of Smigo et al. (5,281,307).

Kono et al. disclose recording media for ink jet printing comprising a support and at least one ink-receptive layer. Kono et al. teach the use of cationically modified polyvinyl alcohol in an ink-receptive layer.

Kono discloses the use of cationically modified polyvinyl alcohol wherein the cationic group is present in the polymer in an amount between 0.05 and 20 mole percent. The cationically modified polyvinyl alcohol is used in combination with one or more other polymers. See the whole patent. In particular, see the abstract, column 4, lines 11-18, c. 4, l. 59 to c. 6, l. 16 and c. 7, l. 35-53.

Kono does not explicitly disclose a copolymer of the general structure set forth in independent claims 12 and 13, although such a copolymer is within the scope of Kono's cationically modified polyvinyl alcohol which is a polyvinyl alcohol having a cationic group such as a primary, secondary or tertiary amino group, or a quaternary ammonium group. The copolymer required by the present claims is a polyvinyl alcohol having a primary or secondary amino group. The mole percent range of the cationic groups as disclosed by Kono (0.05 to 20 mole percent) encompasses the relative amount of vinyl amine units required by the present claims ($y = 0.05$ to 0.2 , which is 5 to 20 mole percent). Kono discloses a preferable range (0.1 to 10 mole percent) which overlaps the presently claimed range for y .

Smigo et al. disclose a paper coated with a polyvinyl alcohol/vinyl amine copolymer containing between 0.5 and 25 mole% vinylamine units, preferably 2 to 12 mole% vinylamine

units. The copolymer may be made by copolymerizing vinyl acetate with N-vinylamides such as N-vinyl formamide or N-vinyl acetamide, followed by hydrolysis of the vinyl acetate to vinyl alcohol and hydrolysis of the vinyl amide to vinylamine. A crosslinking agent may also be used to crosslink the copolymer. See the whole patent. In particular, see column 1, line 44 to c. 2, l. 22, c. 4, l. 61 to c. 5, l. 25, c. 6, l. 8-20, c. 6, l. 36-60 and Examples 1-5. The copolymers disclosed by Smigo are polyvinyl alcohols containing amino groups, and are inherently cationic. Smigo teaches using the copolymers to coat paper and paper-type products in order to provide improvements in properties such as dry strength, wet strength and fold resistance.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the copolymers disclosed by Smigo as the cationically modified polyvinyl alcohol used in the recording medium of Kono. One of ordinary skill in the art would have been motivated to do so by the fact that the copolymers taught by Smigo meet Kono's requirements for the cationically modified polyvinyl alcohol including the mole percent requirements for the cationic group, and by Smigo's teachings regarding the improved properties provided by using the copolymer. One of ordinary skill in the art would recognize that the improved properties taught by Smigo would be beneficial with respect to a recording medium for ink jet printing.

Regarding the requirement of claims 3, 4 and 6-12 for an amount of copolymer below 75 weight % of the combined amount of copolymer and binder, the Kono patent discloses amounts of cationically modified polyvinyl alcohol (hereinafter "catPVA") within the required range.

For example, Kono teaches that the amount of Polymer-A should be in the range of 1 part by weight to 33 parts by weight based on 100 parts by weight of catPVA (see col. 6, lines 16-35).

This equates to an amount of catPVA of about 99 to about 75% by weight based on the combined weight of catPVA and Polymer-A (e.g. in a composition containing 33 parts by weight Polymer-A and 100 parts by weight catPVA, the composition contains about 75 percent by weight catPVA based on the combined weight of catPVA and Polymer-A). Kono teaches that other polymers may be used in combination with the catPVA and Polymer-A, with the weight of catPVA plus Polymer-A to the weight of the other polymers being in the range of 20:1 to 1:20, preferably 15:1 to 1:10 (see col. 7, lines 35-53). Thus, the use of other polymers results in amounts of catPVA within the range required by the present claims (e.g. in a composition containing 33 parts by weight Polymer-A and 100 parts by weight catPVA, and a 20:1 ratio of catPVA and Polymer-A to other polymer, the composition contains about 71% by weight catPVA based on the combined weight of catPVA, Polymer-A and other polymer). Even in the case where no other polymer is used in combination with the catPVA and Polymer-A, Kono provides for an amount of catPVA (75 weight %) that is so close to the upper limit of the range set forth in present claim 12 that one of ordinary skill in the art at the time of the invention would have reasonably expected them to have the same properties.

Regarding claim 13's requirement for a binder consisting of gelatin, the Kono patent discloses gelatin. See column 7, line 38 of the Kono patent. While Kono requires Polymer-A in addition to gelatin, the composition of the layer in present claim 13 is open to other components since the layer "comprises" at least one copolymer of the specified structure and a binder consisting of gelatin. The language of claim 13 does not clearly exclude one or more additional binders that do not consist of gelatin.

Regarding the requirement that the layer comprising the copolymer provide the sheet with enhanced light fastness properties, it is the examiner's position that the recording medium of Kono, as modified to include the copolymer disclosed by Smigo in Kono's ink-receptive layer, would inherently have enhanced light fastness properties absent objective evidence to the contrary.

5. Applicant's arguments filed May 20, 2005 have been fully considered but they are not persuasive.

The prior art rejection, as compared to the rejection set forth in the Examiner's Answer mailed in October 2003, has been modified to address the amendments to claims 12 and 13.

With respect to claim 12 and dependents, applicant argues that claim 12 has been amended to require the quantity of the copolymer to be below 75 weight % whereas the catPVA range taught by Kono as illustrated in the examples is between 77 to 90 weight %. The examiner respectfully disagrees. Kono's disclosure is not limited to the examples. Kono does not limit the relative amount of catPVA to the amounts utilized in the examples. Kono clearly provides for amounts of catPVA of less than 75 weight % when other polymers are used in combination with the catPVA and Polymer-A.

With respect to claim 13, applicant argues that the claim has been amended to clarify that the binder used in the receptive layer is only gelatin. It is the examiner's position that because claim 13 recites "the layer comprises", binders other than gelatin are not excluded from the layer composition.

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6. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
January 20, 2006



**MARIE YAMNITZKY
PRIMARY EXAMINER**

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